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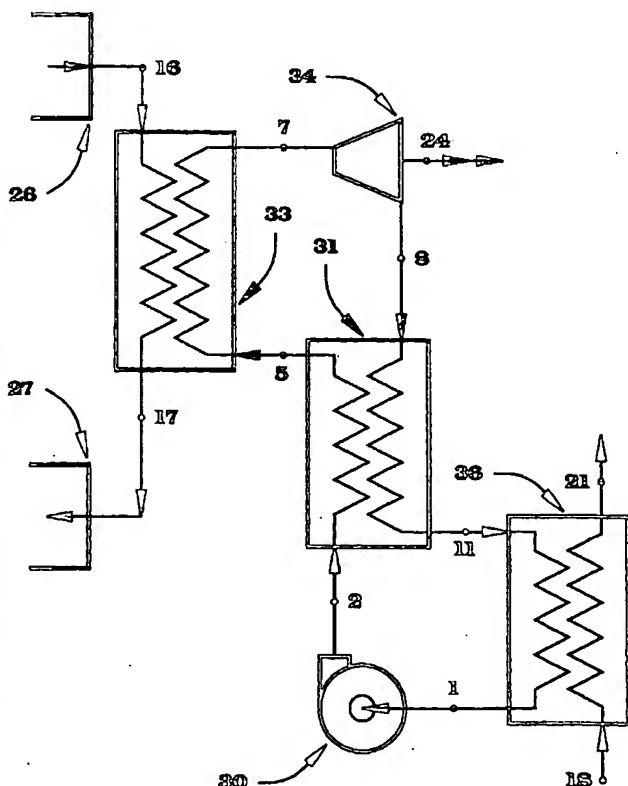
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(54) Title: METHOD OF CONVERTING ENERGY



(57) Abstract: The invention provides a method of converting heat energy to a more usable form using a multi-component working fluid mixture that contains ammonia and water. The working fluid is operated in a thermodynamic cycle that includes liquid compression (30), vaporization (33), expansion through a turbine (34) and condensing (36). The multi-component fluid varies in temperature during phase change allowing for the use of counter-flow heat exchangers for the heater (33), cooler (36), recuperator and pre-heater (32). Significant recuperation is possible due to the temperature change during phase change. A pre-heater (32) can be applied to ensure only single-phase vapour exists within the heater. The invention can be used in conjunction with a biomass combustor or with waste flue gas from an existing industrial process. The coolant exits at a temperature sufficient to allow use in external heating applications or to minimize the size of external heat rejection equipment.

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